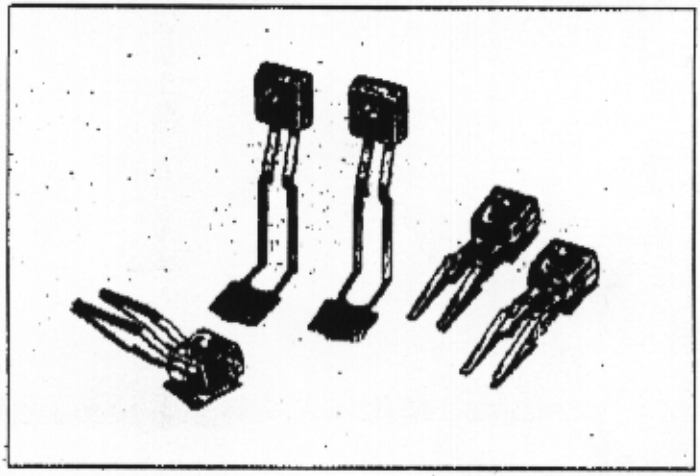
OMRON

INFRARED LIGHT-EMITTING DIODE

EE-L104HB/ -L105X

Epoxy Mold Type Offering High Directivity



- **EE-L104HB**
  Same outline dimensions as Model EE-TP104HB phototransistor. Ideal for use with the phototransistor as an incorporating photomicrosensor component
- **EE-L105X**
  Same outline dimensions as Model EE-TP305X/-TP405X photo IC. Ideal for with the photo IC as a photomicrosensor component
- **Applications:**
  Copier, Printer, Vending Machine, Floppy Disk Drive, Video Cassette Recorder, Cassette Deck, Encoder

Ordering Information

Element	Infrared LED (GaAs)	
Lens	High-directivity lens	
Light-emitting side	One sides	
Terminal type	PC board	
Terminal pitch	2.54 mm	2.5 mm
No. of terminals	2	
Model	EE-L104HB	EE-L105X

Specifications

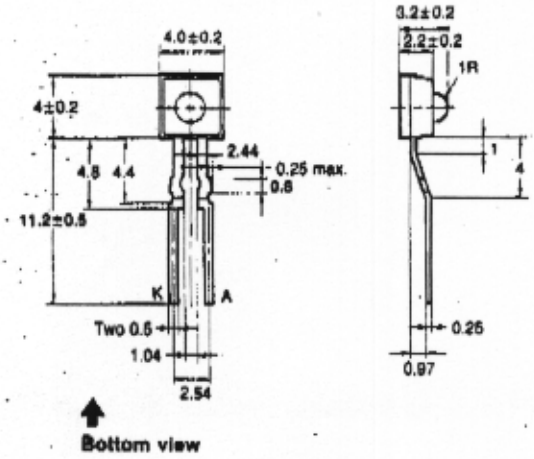
Absolute Maximum Ratings (Ta = 25°C)

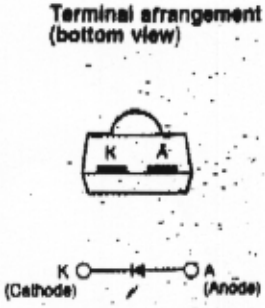
Item	Symbol	Value
Forward current*	I_F	50 mA
Pulse forward current	I_{FP}	1 A
Reverse voltage	V_R	4 V
Operating temperature**	Topr	−20° to 85°C
Storage temperature	Tstg	−40° to 85°C

* Refer to "Temperature rating diagram" when ambient temperature is not at 25°C.
** Without freezing or condensation.

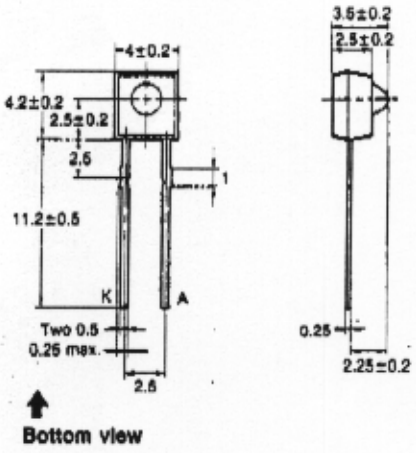
Dimensions

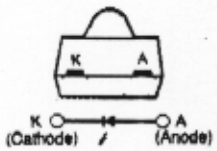
EE-L104HB





EE-L105X

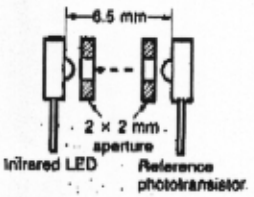


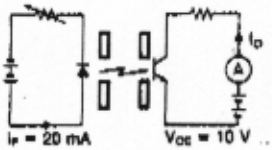


Electrical Characteristics (Ta = 25°C)

Item	Symbol	Limits	Test conditions
Forward voltage	V_F	1.2 V typ. 1.5 V max.	I_F = 30 mA
Reverse current	I_R	10 μA max.	V_R = 4 V
Peak wavelength	λ_P(L)	940 nm typ.	I_F = 30 mA
Output current*	I_O	10 mA typ. 2 mA min.	I_F = 20 mA

* Output current measuring method and conditions
The infrared LED is opposed to a reference phototransistor (h_{FE} = 600 at V_{CE} = 10 V, I_C = 2 mA) with the optical axes of both in alignment. A 2 mm × 2 mm aperture plate is placed in front of the lens of each. The measurement should be carried out in a completely dark environment so that neither the LED nor transistor is adversely affected by external interference light.

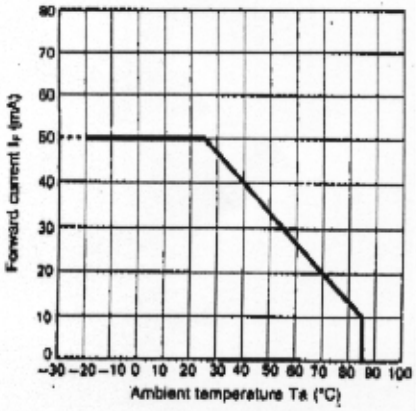




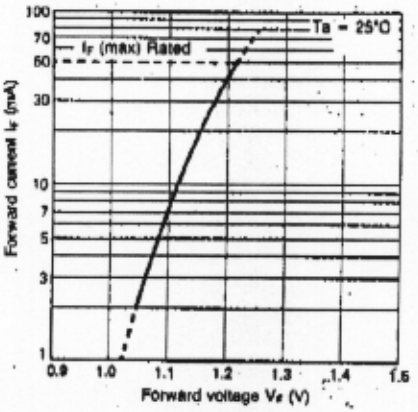
Engineering Data

Note: The following are typical values (except for "Temperature rating diagram"). Actual values vary.

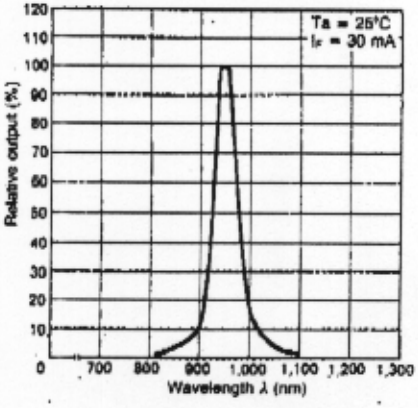
Temperature rating diagram*



Forward current vs. reverse voltage



Spectral wavelength characteristics



*Avoid use beyond the absolute maximum ratings.

Directional sensitivity characteristics